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GROW
AGAPANTHUS

Graham Duncan

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Kirstenbosch Gardening Series

GROW

AGAPANTHUS



**A GUIDE TO THE SPECIES, CULTIVATION
AND PROPAGATION OF THE GENUS AGAPANTHUS**

Text and photographs by Graham Duncan

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Right: *Agapanthus praecox*
subsp. *orientalis* (blue form)

Below: *Agapanthus praecox*
subsp. *orientalis* (blue form)





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Right: *Agapanthus praecox*
subsp. *orientalis* (bicoloured
form)





A BRIEF HISTORY

Agapanthus has been cultivated in European gardens since the late seventeenth century, and is one of the oldest South African plants still in cultivation in western-style gardens today. The generic name is derived from the Greek *agape*, meaning love, and *anthos*, referring to the flower, but the exact reason they were called 'flowers of love' seems a long forgotten mystery. The genus was established by L'Heritier in 1788, and the first species to be cultivated and illustrated was *Agapanthus africanus*, first described in 1679 by the phrase name *Hyacinthus Africanus tuberosus, flore caerulea umbellato*, or the 'tuberous African Hyacinth with umbels of blue flowers'.

Conrad Lighton in his delightful book *Cape Floral Kingdom*, provides a most readable account in the chapter 'Cape Blooms Abroad' of the acclimatisation of *Agapanthus* (probably *A. praecox*) in a mild climate, seaside garden near St. Austell, Cornwall. Here, left to their own devices for ten years, the plants had multiplied to such an extent that when seen at flowering time on the cliff-top, they commanded a breath-taking sight.

The Hon. Lewis Palmer, an authority on *Agapanthus*, did much to encourage their cultivation outdoors in mild parts of England, and for many years he grew them in his own garden at Headbourne Worthly

Grange in Hampshire. He raised many hybrids during this period, and they became known as the Headbourne Hybrids. Miss Frances M. Leighton published her 50-page treatise *The Genus Agapanthus* in 1965 after years of intensive study on the genus. She was responsible for building up a comprehensive living

collection at Kirstenbosch National Botanical Garden, which to this day forms an integral part of the garden display. Despite its shortcomings, Leighton's 1965 publication, beautifully illustrated with delicate watercolours by Miss W.F. Barker, remains the most comprehensive taxonomic work on the genus to date.



Right: *Agapanthus caulescens*
subsp. *angustifolius*

Below: *Agapanthus praecox*
subsp. *orientalis* (white form)



GENERAL INFORMATION

Taxonomy

The genus *Agapanthus* belongs to the family Agapanthaceae, and consists of ten species, often including many different forms within a species. The species are: *Agapanthus africanus*, *A. campanulatus*, *A. caulescens*, *A. coddii*, *A. comptonii*, *A. dyeri*, *A. inapertus*, *A. nutans*, *A. praecox* and *A. walshii*.

A most astonishing degree of variation exists within most of the *Agapanthus* species. Leighton points out that she found few reliable characters on which to base the species, and that future researchers will have to determine more accurate species limits. Certainly the genus is in most urgent need of revision.

The growth cycle

Agapanthus can conveniently be divided into two major groups of evergreen and deciduous species. The deciduous members begin their growth cycle with the onset of spring rains, resulting in rapid vegetative growth and culminating in flowers produced at the height of summer. The evergreen species annually shed a few of their old, outer leaves, and these are replaced by new leaves that grow from the apex of the growing shoot.

As a group the evergreens have a very long flowering period; beginning in late

spring or early summer with the main flowering period in midsummer. As temperatures begin to fall in autumn, the winged black seeds are released from the ripe capsules in time to germinate after the first autumn rains in the winter rainfall region. In summer rainfall regions, the seeds probably lie dormant until the first spring rains.

The flowers

In addition to the two major groupings of evergreen and deciduous members, the genus can be divided further into two groups of species on the basis of flower form, one having narrow, pendulous flowers and short perianth tubes, and the other having open-faced flowers with long perianth tubes. Between these two extremes exist many intermediate forms. The evergreen species, such as *A. africanus* and *A. praecox* occur naturally in areas that receive winter or year-round rainfall such as the Western Cape and Eastern Cape provinces, respectively, whereas the deciduous species like *A. nutans* and *A. inapertus* occur in areas with dry winters and summer rainfall, such as in KwaZulu-Natal and Mpumalanga.

The species with narrow, pendulous flowers all belong to the deciduous group, with the single exception of the evergreen *A. walshii*, which is endemic in a mountainous region of the south-western part of the Western

Cape. There are several species with open-faced flowers which also belong to the deciduous group. The genus exhibits a remarkable flower colour range from pure white, through every imaginable shade of blue, to very deep violet hues.

The foliage

Leaf colour, shape and size also varies tremendously among the species. There is variation from the dark green, broad, arching strap-shaped leaves of *A. praecox*, to the greyish, sub-erect, flaccid leaves of *A. nutans*, to the relatively short and narrow, leathery leaves of *A. africanus*. There is also wide variation in the leaf margin characters of the species. Many of the deciduous species have distinct, ridged margins, whereas the evergreen species

often have transparent, flat margins. A species with particularly attractive, deciduous foliage is *A. coddii*, which produces a most attractive fan of broad, bright green leaves atop a distinct, thick stem.

The *Agapanthus* rootstock is rhizomatous, producing a thick mat of numerous perennial fleshy roots.

Distribution and habitat

The genus *Agapanthus* is endemic in southern Africa and its distribution extends from the Cape Peninsula in the Western Cape to the mountain ranges just south of the Limpopo River in the Northern Province. The altitude range for the genus starts at sea level, rising to about 2000m. There may often be a

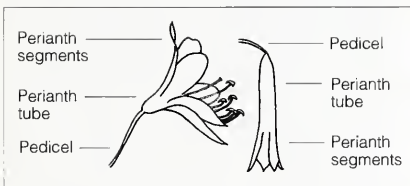


substantial altitude range within a species, most notably in *A. africanus*, which occurs from sea level to about 1200m.

Only two species occur within the winter rainfall region of South Africa, namely *A. africanus* and *A. walshii*. They occur in mineral-poor Table Mountain Sandstone-derived soil, in small to very large clumps, usually on hot, east-facing slopes. Both species are stimulated into profuse flowering by fire. All the other species occur in areas of either summer or year-round rainfall, where they usually grow in humus-rich soils in full sun or semi-shaded positions.

Medicinal uses

The rhizomes and roots of certain *Agapanthus* species (mainly *A. campanulatus* and *A. praecox*) are used medicinally by some of the indigenous peoples of South Africa. Decoctions of the rhizomes and roots are used either orally or rectally as an antenatal or postnatal treatment, as well as being given to the infant immediately after birth. *Agapanthus* decoctions also have mild purgative effects, and are used to ease a difficult labour and ensure that the placenta is expelled.



Agapanthus praecox subsp. *orientalis* (white form)

Right: *Agapanthus africanus* in habitat

THE EVERGREEN AGAPANTHUS SPECIES

There are four evergreen species, namely *A. africanus*, *A. comptonii*, *A. praecox* and *A. walshii*.

Agapanthus africanus

This species does not do particularly well in cultivation. Plants need extremely well drained, sandy acidic soil and full sun. A thick mulch of gravel or stone chips should be placed around the plants, and regular feeding with a high potash fertilizer such as



Percy Sargeant Memorial Collection

Phostrogen is recommended. Best suited to the rock garden or large terracotta pots. Distribution Occurs only in the Western Cape Province, mainly in mountainous areas from the Cape Peninsula to Paarl and Stellenbosch, and eastwards to Swellendam. Flowers profusely after fire. Height 250 to 700mm.

Flowering Period December to April.

Brief identification notes Perianth segments thick in texture, leaves leathery, yellowish green to dark green, short and erect or long and arching. Flowers open-faced, pale to deep blue, very rarely white.

Agapanthus comptonii

A dwarf species consisting of two subspecies, namely *A. comptonii* subsp. *comptonii* and *A. comptonii* subsp.



longitubus. The species has 6-8 leaves per individual plant, which are relatively narrow and slightly channelled down the face, varying from 200 to 600mm in length, and from 10 to 20mm in width. The flower stalks are 30 to 50mm long, the perianth segments are up to 65mm long, and the perianth tube is up to 300mm long. The perianth segments are slightly flared, and recurved at the tips. The stamens are almost straight, and shorter than the perianth segments. It is an extremely useful dwarf species, suitable for rock garden pockets, edges of herbaceous borders and containers. Very easily cultivated.

A. comptonii* subsp. *comptonii

Distribution Occurs in the Eastern Cape. Height 300 to 500mm.

Flowering period January to March

Brief identification notes Differs from subsp. *longitubus* in its shorter perianth tube (length one third or less the length of the perianth segments). Leaves 6-8 per plant, erect or slightly spreading, narrow, 10 to 20mm broad. Flowers open-faced, pale to dark blue.

A. comptonii* subsp. *longitubus

Distribution Occurs in the Eastern Cape. Height 300 to 500mm.

Flowering period January to March.

Brief identification notes Differs from subsp. *comptonii* in its longer perianth tube (length more than one-third and nearly half the length of the perianth segments). Leaves as in subsp. *comptonii*. Flowers open-faced, pale to dark blue or occasionally white. A large number of blue or white dwarf *Agapanthus* forms currently in cultivation, many with cultivar names such as 'Lilliput', 'Peter Pan', and 'Tinkerbell', have their closest affinity to this subspecies of *A. comptonii*.



Above: *Agapanthus praecox* subsp. *praecox*

Opposite: *Agapanthus comptonii* subsp. *longitubus* (blue form)

Below: *Agapanthus praecox* subsp. *orientalis* (white form)

Agapanthus praecox

An extremely variable species consisting of three subspecies, ie subsp. *praecox*, subsp. *orientalis* and subsp. *minimus*. This is the species which is most commonly grown in parks and gardens. The species is recognised by its 7-20 leaves per individual plant, which may be leathery or flaccid, and vary from 200 to 700mm in length, and from 15 to 55mm broad, with blunt or pointed tips. The flower stem may be short and slender or tall and stout, varying from 400mm to 1 m high, and the individual flower stalks vary from 40 to 120mm long. The perianth segments vary from 30 to 70mm long, and are flared to a greater or lesser degree. The perianth tube varies from 7 to 26mm long. The stamens and style protrude, and may be as long as, or slightly shorter than the perianth.

This species does extremely well in even the poorest of soils, but must receive some moisture in summer. Prefers full sun,

but certain forms of *A. praecox* subsp. *minimus* such as 'Adelaide' will flower in semi-shade. Best results obtained in rich soil. Ideal for mass displays.

A. praecox* subsp. *praecox

Distribution Occurs in the Eastern Cape province.

Height 800mm to 1m.

Flowering period December to February.

Brief identification notes Differs from the other two subspecies mainly in its longer perianth segments (50mm or longer) and fewer leaves (10-11 per plant) which are suberect and leathery. Flowers open-faced, medium blue.

A. praecox* subsp. *orientalis

Distribution Occurs in Eastern Cape and southern KwaZulu-Natal.

Height 800mm to 1m.

Flowering period December to February.

Brief identification notes Differs from the subsp. *praecox* in the length of its perianth segments (less than 50mm), and it has more leaves (up to 20 per plant), which are arching and not leathery. Differs from the





Left: *Agapanthus praecox* subsp. *orientalis* (blue form)

Below: *Agapanthus praecox* subsp. *minimus* 'Storms River'

Opposite above: *Agapanthus praecox* subsp. *minimus* 'Adelaide'

Opposite below: *Agapanthus praecox* subsp. *minimus* (variegated form)



subsp. *minimus* in having a dense inflorescence, the overall plant size is larger and plants form thick clumps. Flowers open-faced, pale to medium blue, or pure white.

A. *praecox* subsp. *minimus*

Distribution Occurs in the southern Cape and Eastern Cape.

Height 400 to 600 mm.

Flowering period November to February.

Brief identification notes Differs from the other two subspecies in that the plants are generally much smaller, with fewer leaves per plant (up to 10) and there are fewer flowers in the inflorescence. Differs from subsp. *praecox* in its shorter perianth segments (less than 50 mm) and from subsp. *orientalis* in not forming dense clumps. Flowers open-faced, pale blue or occasionally greyish white.

The cultivar 'Adelaide' is a dwarf, early-flowering, very floriferous plant with bright blue flowers, and can be grown in full sun or semi-shade.

The cultivar 'Storms River' has large heads of pale bluish-white flowers, and is ideal for mass planting in full sun.

Agapanthus walshii

This is undoubtedly the most difficult of all the *Agapanthus* species to maintain in cultivation. It requires an extremely well drained medium consisting of equal portions of sandy acid soil, and burnt, bonfire soil. A thick mulch of gravel or stone chips should be placed around the plants, and regular feeding with a high potash fertilizer such as Phostrogen is recommended.

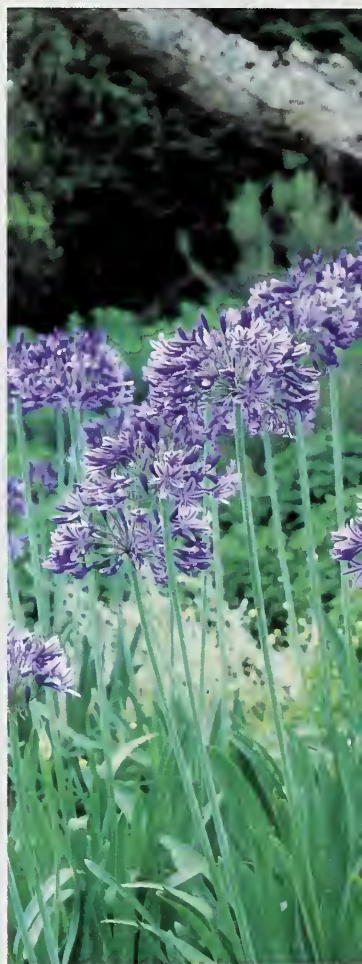
Distribution Restricted to a small area of mountainous habitat in the south-western Cape.

Height 600 to 700 mm.





Flowering period December to February.
Brief identification notes Perianth segments 30 to 55mm long, spreading slightly towards the tips. Leaves 150 to 200mm long, leathery, yellowish green to dark green, erect to sub-erect. Flowers distinctly tubular and pendulous, pale to dark blue, very rarely white.



Opposite above: *Agapanthus walshii* (blue form in habitat)

Opposite below: *Agapanthus walshii* (white form in habitat)

Below: *Agapanthus caulescens* subsp. *angustifolius*



DECIDUOUS AGAPANTHUS SPECIES

There are six deciduous species, namely *A. campanulatus*, *A. caulescens*, *A. coddii*, *A. dyeri*, *A. inapertus* and *A. nutans*.

Agapanthus campanulatus

This species consists of two subspecies, namely *A. campanulatus* subsp. *campanulatus* and *A. campanulatus* subsp. *patens*. The leaves are produced on a distinct stem, and there may be 6-12 leaves per plant, which are erect or semi-erect, glossy or greyish, and vary from 150 to 400mm in length, and from 10 to 25mm in width. The flower stem varies from 400 to 700mm in height, and the flower stalks vary from 20 to 700mm long. The perianth segments vary from 20 to 35mm long, and the perianth tube from 5 to 10mm long. The stamens are shorter than the length of the perianth. It does well in full sun, in rich, well drained soil. As the plants are tall, reaching a height of up to 1m in cultivation, they are recommended as a back planting for the wide herbaceous border. The species easily survives moisture during its winter dormant period.

A. campanulatus* subsp. *campanulatus

Distribution Occurs in KwaZulu-Natal and in the Eastern Cape.

Height 400mm to 1m.

Flowering period December to February.

Brief identification notes Perianth segments 20 to 30.5mm long, the perianth tube 5 to 10mm long. Leaves produced on a distinct stem, greyish or glossy green. Differs from subsp. *patens* in its perianth segments which are much less flared (up to 45 degrees from the axis). Flowers open-faced, pale to deep blue.

The cultivar 'Hardingsdale' is a tall plant with very attractive, bright blue flowers produced in midsummer.

A. campanulatus* subsp. *patens

Occurs in the Free State, Lesotho, KwaZulu-Natal and Gauteng.

Height 400mm to 1m.

Flowering period December to February.

Brief identification notes Differs from subsp. *campanulatus* in its widely flared perianth segments (up to 90 degrees from the axis) and the slightly shorter perianth tube.

Flowers open-faced, pale to deep blue.



Agapanthus caulescens

Three subspecies occur in this species, namely *A. caulescens* subsp. *caulescens*, *A. caulescens* subsp. *angustifolius* and *A. caulescens* subsp. *gracilis*. The foliage of this species is produced on a distinct stem. The basal sheathing leaves are often very short, from 50 to 150mm in length, while the upper leaves vary from 250 to 600mm long, and are about 15mm broad. The flower stem is 600mm to 1.3m high, and the flower stalks are 30 to 70mm long. The perianth segments vary from 30 to 70mm long, are often widely flared, and the perianth tube varies from 10 to 19mm long. The stamens and style are shorter than the perianth segments. It does well in full sun, in very well drained, rich soil. Ideal as a back planting in a wide herbaceous border. The subsp. *angustifolius* does exceptionally well in cultivation and is one

of the most attractive groups of all the deciduous *Agapanthus* species.

Height 600mm to 1.3m.

Flowering period January to February.

A. caulescens* subsp. *caulescens

Distribution Swaziland.

Brief identification notes Differs from the other two subspecies mainly in its larger flowers and much broader leaves (40mm in width or more).

A. caulescens* subsp. *angustifolius

Distribution Occurs in Swaziland, KwaZulu-Natal and Mpumalanga.

Brief identification notes Differs from subsp. *gracilis* in having stiffly erect to sub-erect, greyish leaves, and the perianth segments not distinctly recurved. Differs from subsp. *caulescens* in its narrower leaves (30 mm in width or less) and its smaller flowers.

Opposite: *Agapanthus campanulatus* subsp. *campanulatus* 'Hardingsdale'

Below: *Agapanthus caulescens* subsp. *angustifolius*

A. caulescens subsp. gracilis

Distribution Occurs in KwaZulu-Natal.

Brief identification notes Differs from subsp. *angustifolius* in its flaccid leaves and its perianth segments which are distinctly recurved. Differs from subsp. *caulescens* in its narrower leaves (30mm in width or less) and its smaller flowers.





Agapanthus coddii

This species does extremely well in rich, well drained soil in full sun or very light shade. It does not mind irrigation during its winter dormant period. A robust plant, ideal for mass displays, or as a backdrop to a wide herbaceous border.

Distribution Occurs in the Northern Province.

Height 800mm to 1m.

Flowering period January.

Brief identification notes Plant with a distinct stem giving rise to a fan of very broad leaves with blunt tips. Perianth

segments 35 to 40mm long, perianth tube 8 to 12mm long, flowers open-faced, pale to dark blue.

Agapanthus dyeri

Very rare in cultivation. Little is known about its cultivation performance, but it would probably do well in a rich, well drained soil in full sun. It is probably well suited to the herbaceous border.

Distribution Occurs in the Northern Province and in Mozambique, just outside the border with Mpumalanga.

Height 350 to 400mm (up to 900mm in cultivation).

Flowering period January to February.

Brief identification notes Leaves up to 350mm long, narrow (15mm in width) and produced from a distinct stem. Perianth segments moderately spreading, flowers open-faced, medium blue. Flower stalks erect when in bud, but spreading to almost drooping when in flower.

Agapanthus inapertus

This species consists of five subspecies, namely *A. inapertus* subsp. *inapertus*, *A. inapertus* subsp. *hollandii*, *A. inapertus* subsp. *intermedius*, *A. inapertus* subsp. *parviflorus* and *A. inapertus* subsp. *pendulus*. This species has 6-8 leaves per individual plant, which are produced on a distinct stem. The leaves are usually arranged in a fan shape, may be glossy or greyish, and are 300 to 500mm long, and 20 to 30mm broad. The flower stem varies from 300mm to 1.8m in height, and the flower stalks vary from 20 to 55mm in length. The flower stalks are erect during



Opposite: *Agapanthus dyeri*

Above: *Agapanthus coddii*

Right: *Agapanthus coddii*



Agapanthus inapertus subsp.
hollandii 'Lydenburg'

Opposite: *Agapanthus*
inapertus subsp. *hollandii* 'Sky'



the bud stage, and become drooping during the flowering stage. The flowers are tubular, with the perianth segments varying from 30 to 90mm long, and the perianth tube from 30 to 50mm long. The stamens are as long as the perianth. It does extremely well in rich, well drained soil in a full sun position. Clumps do not like being divided unless very thick. Ideally suited to the herbaceous border, or interplanted with winter growing bulbs like *Chasmanthe floribunda*. Easily withstands irrigation during the winter dormant period. Height 300mm to 1.8m. Flowering period January to March.

A. inapertus subsp. inapertus

Distribution Occurs in Mpumalanga and the Northern Province.

Brief identification notes Differs from the

other subspecies in having slightly flared perianth segments 40 to 50mm long, with the perianth tube usually two-thirds as long as the perianth. Flowers tubular and pendulous, pale to dark blue, very rarely white.

The cultivar 'White' is a very tall plant with beautiful white flowers produced in midsummer, and has attractive grey leaves.

A. inapertus subsp. hollandii

Distribution Occurs in Mpumalanga.

Brief identification notes Differs from the other subspecies in having distinctly flared, narrower perianth segments which are shorter than the length of the perianth tube.

The cultivar 'Lydenburg' is one of the most attractive of all the deciduous *Agapanthus* species. It has long-lasting,



Left: *Agapanthus inapertus* subsp. *hollandii* 'Sky'

Below: *Agapanthus inapertus* subsp. *intermedius* 'Wolkberg'



deep blue pendulous flowers in midsummer. Plants need a rich soil in full sun.

The cultivar 'Sky' is a very tall plant, with sky blue flowers in midsummer, and has attractive grey leaves.

A. inapertus* subsp. *intermedius

Distribution Occurs in Swaziland, Mpumalanga, Gauteng and in the Northern Province.

Brief identification notes A very variable subspecies which differs from the other

subspecies mainly in having distinctly flared perianth segments which are the same length as the perianth tube.

A. inapertus* subsp. *parviflorus

Distribution Occurs in Mpumalanga.

Brief identification notes Differs from the other subspecies in having relatively small flowers with narrower perianth segments 23 to 35 mm long.

A. inapertus* subsp. *pendulus

Distribution Occurs in Mpumalanga.

Brief identification notes Differs from the other subspecies in having shorter, fleshier perianth segments which are almost as wide as they are long. Certain forms of this subspecies have the darkest coloured flowers in the entire genus, being an extremely dark violet blue colour.

Right: *Agapanthus inapertus*
subsp. *inapertus* 'White'

Below: *Agapanthus nutans*



The cultivar 'Graskop' has very attractive, deep violet blue flowers in midsummer, and can be grown in full sun or very light shade.

Agapanthus nutans

A species that does fairly well in rich, well drained soil in full sun or partial shade. The plants are not very robust, and are most suited to rock garden pockets or the middle of the herbaceous border. It can tolerate irrigation during the winter dormant period, and does not like being divided unless clumps are very thick.

Distribution Occurs in KwaZulu-Natal and in the Northern Province.

Height 600 to 900mm.

Flowering period December to January.

Brief identification notes Flowers borne in a distinctly drooping position, perianth segments 35 to 60mm long, perianth tube 13 to 27mm long. Flowers mildly open-faced, pale to dark blue. Leaves borne on a distinct stem, erect or sub-erect, dark green or greyish.



GARDEN HYBRIDS, CULTIVARS AND ODDITIES

Agapanthus species, especially the open-faced ones, are easily able to hybridise when grown in close proximity and thus a vast number of garden hybrids have arisen. Many of these are hybrids between different forms of the same species, especially *A. praecox* and *A. comptonii*. Many have been given cultivar names, and frequently the same hybrid or form is sold under different names, resulting in untold confusion. Cultivated *Agapanthus* species are a horticultural taxonomist's nightmare! The Kirstenbosch *Agapanthus* collection contains many different, wild-collected forms of the same species, such as *A. inapertus* and *A. praecox*, and some of the more striking of these forms have been given cultivar names, such as *A. inapertus* subsp. *pendulus* 'Graskop' and *A. praecox* subsp. *minimus* 'Storms River'. (See article by G.D. Duncan in *Veld and Flora*, 71 (4): 122-125. 1985.)

Over the years, many oddities in the cultivated *Agapanthus* world have arisen – forms with sterile, double flowers, forms with attractive variegated leaves, not to mention countless monstrous hybrids. Certainly the genus *Agapanthus*, with its plethora of wild forms and ever increasing number of cultivated oddities could never be described as dull or boring.



Right: *Agapanthus inapertus*
subsp. *hollandii* 'Lydenburg'

Agapanthus inapertus subsp.
inapertus 'White'

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CULTIVATION

Agapanthus ranks among the most easily cultivated bulbous plants. Their free-flowering nature, remarkable variation in foliage and eye-catching flower-heads have endeared them to gardeners around the world. They are ideal garden and container plants, and also make excellent cutflowers.

Aspect

They generally require a full sun situation for successful flowering, or should receive full sun or very good light for at least half the day. Certain forms can also be grown in light shade, such as *A. praecox* subsp. *minimus* 'Adelaide', *A. praecox* subsp. *orientalis* and *A. inapertus* subsp. *pendulus*. When grown in excessive shade, the evergreen species produce lush foliage, but very seldom flower. The deciduous species, on the other hand, do not do well at all when grown in too much shade.

Uses in the garden

Agapanthus can be used in so many ways. The tall growing deciduous species and the smaller evergreens are ideal subjects for the herbaceous border or the rock garden. The larger evergreen species can be massed together in big beds in parks and large gardens, or be interplanted with deciduous winter and spring flowering

bulbs like *Chasmanthe floribunda* or *Watsonia borbonica*. The evergreen species are also excellent subjects for stabilizing steep banks, as their long fleshy roots bind the soil and prevent erosion. In difficult seaside gardens, the evergreens generally stand up well to the wind, and they will also transform many a dreary road verge into a riot of summer colour in all but the driest of conditions.

Uses as container subjects

The evergreen *Agapanthus* species and the smaller deciduous ones make excellent container subjects, provided they are well watered and fertilized. The large evergreen species like *A. praecox* are particularly attractive when grown in big wine barrels. The dwarf, evergreen *Agapanthus*

varieties, especially the dwarf white ones are highly decorative when grown in terracotta pots flanking garden stairs or on either side of a front door. In Northern Hemisphere countries with extreme climates, evergreen *Agapanthus* species do very well when grown in a cool greenhouse, provided they receive sufficient light.

Growing medium

Although *Agapanthus* plants will grow in the poorest of soils, best results are always obtained when they are planted in fertile, well drained, yet water-retentive soil. Good garden loam containing large amounts of organic matter delivers the best results. With the exception of *A. africanus* and *A. walshii* which both need an acid growing medium, *Agapanthus* plants are not fussy as regards the acidity or alkalinity of the soil.

Watering

Once established, *Agapanthus* plants are remarkably drought resistant in all but the driest of conditions, but ideally they should receive plenty of water during their active growing period, i.e. the summer months. (The exceptions are *A. africanus* and *A. walshii*, which should be kept fairly dry in summer). The deciduous species are remarkably tolerant of winter rainfall received during their dormant period, provided that the soil is well drained. The evergreen species easily withstand drought during the winter period, but benefit from water received throughout the year. As with most other garden plants, it is always best to apply regular, drenching



Agapanthus inapertus subsp.
pendulus 'Graskop'

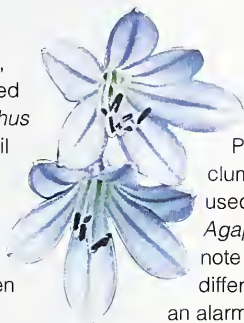
waterings rather than irregular, superficial waterings. When grown in the garden, watering once weekly during the summer is recommended, but when grown in containers, two or three good waterings per week may be necessary.

Feeding

To ensure excellent flowering, liquid feeding is recommended for container grown *Agapanthus* plants from early summer until the flower-heads have formed, and can be applied every two weeks. For garden grown plants, applications of general garden granular fertilizer are recommended three times during the summer growing period, ie in early spring, early summer and late summer.

Hardiness

Generally speaking, the deciduous *Agapanthus* species are more hardy than the evergreens and can tolerate light frost. In the Northern Hemisphere, evergreen species are hardy in mild parts such as in the south-west of England and in the Mediterranean, but in areas with extreme winter temperatures they are best grown in the cool greenhouse. Outdoors, even when foliage is severely damaged by frost, the *Agapanthus* rootstock will often survive and resprout. A deep mulch of straw or bracken litter will help ensure survival of the rootstock in cold climates. Cultivation in tubs is highly recommended in very cold climates as plants can be moved into a light, dry, frost-free location for the winter.



PROPAGATION

Propagation by division of thick clumps is currently the most widely used method of increasing stocks of *Agapanthus* plants. It is essential to note that *Agapanthus* species or different forms of a species hybridize at an alarmingly easy rate when grown in close proximity. Division is still the most reliable way of ensuring that the material being propagated is exactly true to type. Sowing of seed is another method used, and propagation by tissue culture is a recent new method which has not yet been perfected.

Division

Plants of evergreen *Agapanthus* species are best divided just after the end of their flowering period in early March, while plants of the deciduous species are best divided in spring, before active growth begins. The evergreens should generally be lifted and divided every four years, and usually flower best in their first season after dividing. On the other hand, the deciduous species like to be very well established, and should only be divided every six years. Plants will often not flower at all in the first season after dividing.

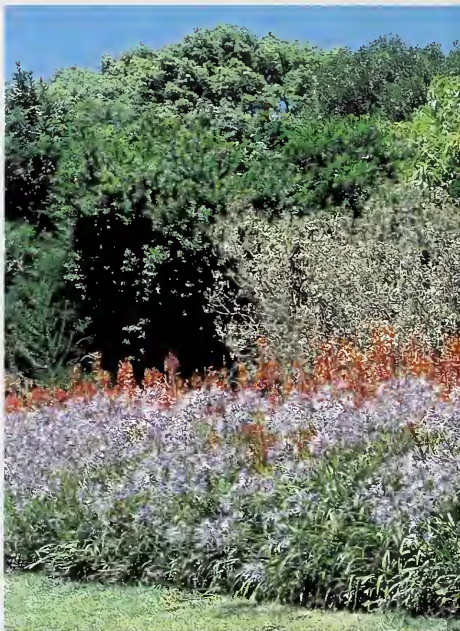
Large clumps of *Agapanthus* should be dug up and prized apart by placing two large forks back to back in the centre. Alternatively, the rootstock may simply be

chopped up into individual portions with a spade, ensuring that each portion has sufficient roots and at least one strong growing shoot. The foliage of the evergreens should be reduced to half its original length, and the thick fleshy roots can be reduced by up to two-thirds. It is not advisable to cut back the foliage of deciduous species, but the roots can be reduced by half. Individual divided plants should preferably be replanted immediately and watered thoroughly.

Seed

Seeds of all *Agapanthus* species have a limited viability and are best sown immediately after ripening, ie in late summer or autumn in the Southern Hemisphere. It must always be borne in mind that when different *Agapanthus* species are grown in close proximity, the progeny arising from their seeds will, in most instances, not be exactly true to type. Only controlled hand pollinated seed and seed harvested in the wild will provide true-to-type progeny.

Seed is best sown in deep seed trays in a mixture of equal parts river-sand and fine compost. The trays should be placed in a semi-shaded position and kept moist. Fresh seed normally germinates readily within six to eight weeks. Care should be taken to sow the seed thinly, and the seedlings can be allowed to remain in the trays for one year, after which they can be potted up individually into black bags or small pots and allowed to harden off for a further year. Young plants can be planted out into the garden or into permanent large pots at the beginning of their third season. The evergreens generally flower for the first time during their third season, while the deciduous species may often take another year before flowering.





Left: *Agapanthus comptonii*
subsp. *longitubus*

Below: *Agapanthus praecox*
subsp. *minimus* 'Adelaide',
flowering with *Watsonia*
pillansii



PESTS AND DISEASES

Compared with other bulbous plants, *Agapanthus* plants are generally pest- and disease-free, but the foliage and flowers may at times be subject to heavy attack by pests and diseases.

Pests

Red spider mite These tiny red sucking insects attack the undersides of foliage, visible in severe infestations as a silvery white web. Spraying is not recommended unless infestation is severe, in which case spray with propargite (eg Omite) or dicofol (eg Kelthane), both of which are environmentally compatible, as a full cover spray.

Thrips These are visible on close inspection as tiny black or brown elongated insects which move around rapidly, usually seen on the undersides of the leaves. They rasp the leaf surface resulting in characteristic white streaks, and can transmit viral diseases. Spraying is not recommended unless infestation is severe, in which case spray with acephate, which is environmentally compatible (eg Orthene or Acephate), as a full cover spray.

Mealybugs These white, waxy sucking insects sometimes attack the bases of the leaves, causing malformed foliage, and can transmit viral diseases. Spraying is

only recommended in severe infestations. Spray with partially environmentally compatible chlorpyrifos (eg Chlorpirifos) as a full cover spray, or as a soil drench for container-grown plants.

Snails These seldom do any physical damage to *Agapanthus* plants, but the undersides of the foliage, especially of the evergreen species, often harbour vast numbers of snails that feed on other garden plants. They are also transmitters of viral diseases, especially to members of the family Amaryllidaceae, most notably the genus *Brunsvigia*. Pick off the culprits by hand, or, in severe infestations, keep ducks to do the job for you. (Muscovies or Dutch quackers are ideal.)

Gall midge fly The small yellowish larvae of this fly burrow into young *Agapanthus* flower buds, causing malformation, and are

also responsible for secondary bacterial infection. Preventative spraying is necessary, before and after the sheaths enclosing the buds of the flower-head break open. Spray only in severe infestations with fenthion (eg Lebaycid), as a full cover spray.

Diseases

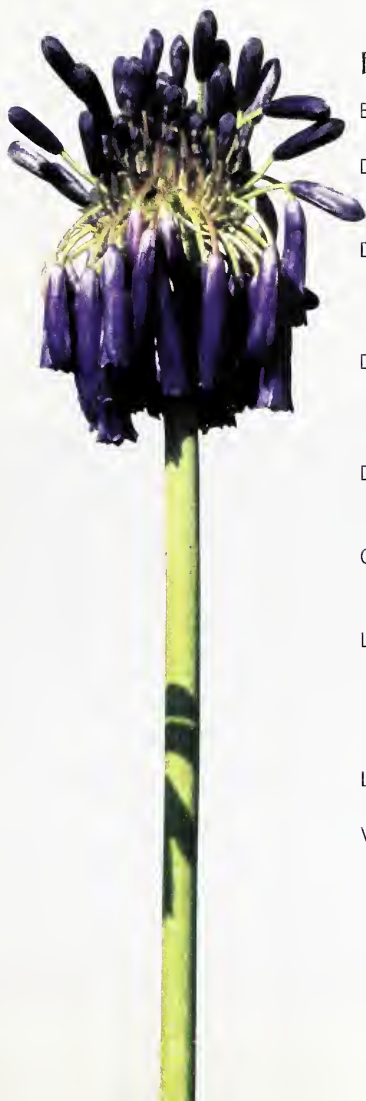
Botrytis During the flowering period, *Botrytis* can cause severe infestation in flowers and developing flower buds causing malformation, and resulting in the buds not opening. It is visible as brownish lesions on the affected parts. Preventative spraying is necessary, ie spraying before and after the sheaths enclosing the buds of the flower-head break open. Spray with environmentally compatible iprodione (eg Rovral M) or mancozeb (eg Dithane M45) as a full cover spray.

***Agapanthus* fungus** The *Agapanthus*

fungus *Macrophoma agapanthi* attacks the foliage, causing the leaves to die back and go brown from the tips. Spraying is not recommended unless

infestation is severe, in which case spray with environmentally compatible mancozeb (eg Dithane M45) or captab (eg Orthocide) as a full cover spray.





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comptonii* subsp. *longitubus*

Inset: *Agapanthus coddii*

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